

Single-Phase Transformers

4AM, 4AT Safety, Isolating, Control and Mains Transformers

General data

Technical specifications

Transformers • Version • Performance range (with IP00) • Approvals	Type	4AM EI core 0.025 ... 2.5 cTlus	4AT UI core > 2.5 ... 16
Voltage range • Approvals for USA, Canada	V	≤ 690	
	V	≤ 600	
Rated frequency	Hz	50 ... 60	
Thermal class • According to UL/CSA		B Class 130	H Class 180
Ambient conditions Rated ambient temperature • At rated power • Maximum value, after power reduction depending on load characteristics, (see "Design") • Minimum value	°C	40	55
	°C	80	
	°C	– 25	
Relative air humidity • Mean value up to • Maximum value for 30 days/year • At 40 °C occasionally	%	80	
	%	95	
	%	100	
Safety class		I	
Degree of protection • Without enclosure • With protective enclosure (according to "Selection and Ordering Data", see Catalog LV 1) • Version		IP00 IP23 or IP54 IP23, IP54: sheet-steel enclosure coated with epoxy resin, color gray RAL 7032	
Installation height		Up to 1000 m above sea level (above this, power reduction is necessary)	
Protective devices • External		The transformers can be protected against short-circuits and overload on the primary and secondary side with circuit breakers. For reliable protection against short-circuits, overload and touch, the cables between the output terminals of the transformer and the load must have a negligible line impedance. For more details see DIN VDE 0100 (Erection of low-voltage systems) Part 410, Part 520 (particularly section 525) and Part 610. Assigned protective devices (see "Technical Specifications")	
Connection method • Terminal arrangement (see "Schematics") • For terminal versions and connectable cross-sections (see "Project Planning Aids")		The permissible conductor cross-sections are assigned to the specified terminal types. Refer to DIN VDE 0298-4 and EN 60204 (VDE 0113-1) for the permissible conductor cross-sections for the specified current according to the installation type. Other terminal sizes than standard versions on request.	
Mounting position		The permissible mounting position for each version is shown in the "Project Planning Aids".	

Further technical specifications can be found on the Internet at <http://www.siemens.com/sidac>.

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General data

Rated power outputs at different ambient temperatures

- With electrically isolated windings
- Degree of protection IP00
- According to EN 61558, **CE**

Transformers	Rated power P_n	Permissible transformer load depending on the ambient temperature							
Type	kVA	$t_a = 60\text{ }^{\circ}\text{C}$ kVA	$t_a = 55\text{ }^{\circ}\text{C}$ kVA	$t_a = 50\text{ }^{\circ}\text{C}$ kVA	$t_a = 45\text{ }^{\circ}\text{C}$ kVA	$t_a = 40\text{ }^{\circ}\text{C}$ kVA	$t_a = 35\text{ }^{\circ}\text{C}$ kVA	$t_a = 30\text{ }^{\circ}\text{C}$ kVA	$t_a = 25\text{ }^{\circ}\text{C}$ kVA
4AM transformers									
4AM23 4	0.025	0.021	0.022	0.023	0.024	0.025	0.026	0.027	0.0278
4AM26 4	0.04	0.0336	0.0352	0.0368	0.0384	0.04	0.0416	0.0432	0.0444
4AM32 4	0.063	0.0529	0.0554	0.058	0.0605	0.063	0.0655 ¹⁾	0.068 ¹⁾	0.0699 ¹⁾
4AM34 4	0.1	0.084	0.088	0.092	0.096	0.1	0.104 ¹⁾	0.108 ¹⁾	0.111 ¹⁾
4AM38 4	0.16	0.134	0.141	0.147	0.154	0.16	0.166 ¹⁾	0.173 ¹⁾	0.178 ¹⁾
4AM40 4	0.25	0.21	0.22	0.23	0.24	0.25	0.26	0.27	0.278
4AM43 4	0.315	0.265	0.277	0.29	0.302	0.315	0.328	0.34	0.35
4AM46 4	0.4	0.336	0.352	0.368	0.384	0.4	0.416	0.432	0.444
4AM48 4	0.5	0.42	0.44	0.46	0.48	0.5	0.52	0.54	0.555
4AM52 4	0.63	0.529	0.554	0.58	0.605	0.63	0.655	0.68	0.699
4AM55 4	0.8	0.672	0.704	0.736	0.768	0.8	0.832	0.864	0.888
4AM57 4	1	0.84	0.88	0.92	0.96	1	1.04	1.08	1.11
4AM61 4	1.6	1.34	1.41	1.47	1.54	1.6	1.66	1.73	1.78
4AM64 4	2	1.68	1.76	1.84	1.92	2	2.08	2.16	2.22
4AM65 4	2.5	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.78
4AT transformers									
4AT30 3	4	3.88	4	4.12	4.24	4.4	4.52	4.64	4.76
4AT36 1	5	4.85	5	5.15	5.3	5.5	5.65	5.8	5.95
4AT36 3	6.3	6.11	6.3	6.49	6.68	6.93	7.12	7.31	7.5
4AT39 1	8	7.76	8	8.24	8.48	8.8	9.04	9.28	9.52
4AT39 3	10	9.7	10	10.3	10.6	11	11.3	11.6	11.9
4AT43 0	11.2	10.9	11.2	11.5	11.9	12.3	12.7	13	13.3
4AT43 1	12.5	12.1	12.5	12.9	13.3	13.8	14.1	14.5	14.9
4AT43 2	14	13.6	14	14.4	14.8	15.4	15.8	16.2	16.7
4AT45 0	16	15.5	16	16.5	17	17.6	18.1	18.6	19

¹⁾ For control transformers, the values $t_a = 40\text{ °C}$ apply.

Operation characteristics

- According to EN 61558-2-6, EN 61558-2-4, EN 61558-2-2, EN 61558-2-1

Transformers Type	Rated power P_n 50 Hz ... 60 Hz 1000 m above sea level Degree of protection IP00 kVA	Core size	Voltage rise in no-load operation (operating temperature) u_A approx. %	Voltage drop on rated load ¹⁾ u_R approx. %	Short-circuit voltage ¹⁾ u_Z approx. %	Degree of efficiency η approx. %
4AM transformers: $t_a = 40\text{ °C/B}$						
4AM23 4	0.025	EI 60/20	26	17.6	17.6	74
4AM26 4	0.04	EI 66/22	23	15.3	15.3	76
4AM32 4	0.063	EI 84/28	10	8.4	8.4	85
4AM34 4	0.1	EI 84/42	10	7.7	7.7	86
4AM38 4	0.16	EI 96/44	10.4	7.6	7.7	86
4AM40 4	0.25	EI 96/58	7.2	5.4	5.4	89
4AM43 4	0.315	EI 105/60	6.6	4.9	5	90
4AM46 4	0.4	EI 120/52	5.7	4.3	4.4	91
4AM48 4	0.5	EI 120/72	5	3.8	3.8	91
4AM52 4	0.63	EI 150/48	4.7	3.6	3.7	92
4AM55 4	0.8	EI 150/65	4	3	3.1	92
4AM57 4	1	EI 150/90	3.2	2.5	2.5	93
4AM61 4	1.6	EI 174/82	2.4	1.9	2.1	96
4AM64 4	2	EI 174/102	2.1	1.7	1.9	96
4AM65 4	2.5	EI 192/110	1.6	1.3	1.6	96
4AT transformers: $t_a = 55\text{ °C/H}$						
4AT30 3	4	UI 150/75	3.9	2.8	2.8	95
4AT36 1	5	UI 180/75	5.6	3.9	3.9	94
4AT36 3	6.3	UI 180/75	4.4	3.1	3.2	95
4AT39 1	8	UI 210/70	4.4	3.1	3.2	95
4AT39 3	10	UI 210/70	3.5	2.5	2.8	96
4AT43 0	11.2	UI 240/80	3.9	2.8	2.8	95
4AT43 1	12.5	UI 240/80	3.5	2.5	2.6	96
4AT43 2	14	UI 240/80	3.1	2.2	2.4	96
4AT45 0	16	UI 240/107	2.9	2.1	2.1	96

Calculation of power loss P_V

$$P_V = \frac{P_n (100 - \eta)}{\eta} \text{ [kW]}$$

¹⁾ Winding reference temperature: 20 °C.

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General data

Primary-side short-circuit and overload protection with motor starter protectors

Version with one input voltage

Trans- formers	Rated power P_n	Motor starter protection version: Motor protection ¹⁾	Rated input voltage U_{1N} in V																										
			Type	kVA	Type	690	660	600	575	550	525	500	480	460	440	415	400	380	240	230	220	208	200	190					
4AM transformers																													
4AM23 4	0.025	3RV10 11-□□□10 Set value in A	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0CA	0CA	0CA	0CA	0DA	0DA	0DA					
4AM26 4	0.04	3RV10 11-□□□10 Set value in A	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0AA	0BA	0BA	0BA	0BA	0BA	0CA	0CA	0EA	0EA	0EA	0EA	0FA	0FA	0FA					
4AM32 4	0.063	3RV10 11-□□□10 Set value in A	0BA	0BA	0BA	0BA	0CA	0CA	0CA	0CA	0CA	0CA	0DA	0DA	0DA	0DA	0DA	0FA	0GA	0GA	0GA	0GA	0GA	0GA					
4AM34 4	0.1	3RV10 11-□□□10 Set value in A	0DA	0DA	0EA	0EA	0EA	0EA	0EA	0FA	0FA	0FA	0FA	0FA	0FA	0FA	0GA	0JA	0JA	0JA	0KA	0KA	0KA	0KA					
4AM38 4	0.16	3RV10 11-□□□10 Set value in A	0FA	0FA	0FA	0FA	0FA	0GA	0GA	0GA	0GA	0GA	0HA	0HA	0HA	0HA	0KA	0KA	1AA	1AA	1AA	1AA	1AA	1AA					
4AM40 4	0.25	3RV10 11-□□□10 Set value in A	0HA	0HA	0HA	0HA	0JA	0JA	0JA	0JA	0JA	0JA	0KA	0KA	0KA	0KA	0KA	1BA	1BA	1CA	1CA	1CA	1CA	1CA					
4AM43 4	0.315	3RV10 11-□□□10 Set value in A	0JA	0JA	0JA	0JA	0KA	0KA	0KA	0KA	1AA	1AA	1AA	1AA	1AA	1AA	1AA	1CA	1DA	1DA	1DA	1DA	1DA	1DA					
4AM46 4	0.4	3RV10 11-□□□10 Set value in A	0KA	0KA	0KA	0KA	1AA	1AA	1AA	1AA	1AA	1BA	1BA	1BA	1BA	1BA	1BA	1DA	1DA	1EA	1EA	1EA	1EA	1EA					
4AM48 4	0.5	3RV10 11-□□□10 Set value in A	1AA	1AA	1AA	1BA	1BA	1BA	1BA	1BA	1BA	1BA	1CA	1CA	1CA	1CA	1CA	1EA	1FA	1FA	1FA	1FA	1FA	1FA					
4AM52 4	0.63	3RV10 11-□□□10 Set value in A	1AA	1BA	1BA	1BA	1BA	1BA	1CA	1CA	1CA	1CA	1DA	1DA	1DA	1DA	1FA	1FA	1FA	1GA	1GA	1GA	1GA	1GA					
4AM55 4	0.8	3RV10 11-□□□10 Set value in A	1CA	1CA	1CA	1DA	1DA	1DA	1DA	1DA	1DA	1DA	1EA	1EA	1EA	1EA	1GA	1GA	1HA	1HA	1HA	1HA	1HA	1HA					
4AM57 4	1	3RV10 11-□□□10 Set value in A	1DA	1DA	1DA	1DA	1DA	1EA	1EA	1EA	1EA	1EA	1FA	1FA	1FA	1FA	1HA	1HA	1JA	1JA	1JA	1JA	1JA	1JA					
4AM61 4	1.6	3RV10 11-□□□10 3RV10 21-□□□10 Set value in A	1FA	1FA	1FA	1FA	1FA	1GA	1GA	1GA	1GA	1HA	1HA	1HA	1HA	1HA	1KA	--	--	4AA	4AA	4AA	4AA	4AA					
4AM64 4	2	3RV10 11-□□□10 3RV10 21-□□□10 Set value in A	1GA	1GA	1GA	1GA	1HA	1HA	1HA	1HA	1HA	1JA	1JA	1JA	1JA	1JA	--	4AA	4AA	4BA	4BA	4BA	4BA	4BA					
4AM65 4	2.5	3RV10 11-□□□10 3RV10 21-□□□10 Set value in A	1GA	1GA	1HA	1HA	1HA	1JA	1JA	1JA	1JA	--	--	--	--	--	--	--	--	--	--	--	--	--					
4AT transformers																													
4AT30 3	4	3RV10 11-□□□10 3RV10 21-□□□10 3RV10 31-□□□10 Set value in A	1JA	1JA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
4AT36 1	5	3RV10 11-□□□10 3RV10 21-□□□10 3RV10 31-□□□10 Set value in A	1KA	1KA	1KA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
4AT36 3	6.3	3RV10 21-□□□10 3RV10 31-□□□10 Set value in A	4AA	4AA	4BA	4BA	4BA	4BA	4CA	4CA	4CA	4CA	4DA	4DA	4DA	4DA	--	--	--	--	--	--	--	--					
4AT39 1	8	3RV10 21-□□□10 3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4BA	4BA	4CA	4CA	4CA	4DA	4DA	4DA	4DA	--	--	--	--	--	--	--	--	--	--	--	--	--					
4AT39 3	10	3RV10 21-□□□10 3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4CA	4CA	4DA	4DA	4DA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
4AT43 0	11.2	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4EA	4EA	4EA	4EA	4EA	4FA	4FA	4FA	4FA	4GA	4GA	4GA	4HA	4HA	--	--	--	--	--	--	--	--					
4AT43 1	12.5	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4EA	4EA	4FA	4FA	4FA	4FA	4FA	4GA	4GA	4GA	4HA	4HA	--	--	--	--	--	--	--	--	--	--					
4AT43 2	14	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4EA	4FA	4FA	4FA	4FA	4GA	4GA	4HA	4HA	4HA	--	--	--	--	--	--	--	--	--	--	--	--					
4AT45 0	16	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4FA	4FA	4GA	4GA	4HA	4HA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					

¹⁾ Two-pole or single-pole motor starter protectors can be connected (3 conducting paths in series).

Single-Phase Transformers

4AM, 4AT Safety, Isolating, Control and Mains Transformers

General data

Primary-side short-circuit and overload protection with motor starter protectors

European voltage and multi-voltage version

Transformers	Rated power P_N	Motor starter protector ¹⁾	Rated input voltage U_{1N} in V																		
			Type	690	660	600	575	550	525	500	480	460	440	415	400	380	240	230	220	208	200
Motor starter protector version for 4AM transformers: transformer protection																					
4AM23 4	0.025	3RV14 21-□□□10 Set value in A	0AA 0.11	0AA 0.11	0AA 0.11	0AA 0.11	0AA 0.11	0AA 0.11	0AA 0.11	0AA 0.11	0AA 0.11	0AA 0.11	0AA 0.11	0AA 0.11	0AA 0.12	0CA 0.19	0CA 0.2	0CA 0.2	0CA 0.23	0CA 0.24	0CA 0.25
4AM26 4	0.04	3RV14 21-□□□10 Set value in A	0AA 0.11	0AA 0.11	0AA 0.12	0AA 0.12	0AA 0.13	0BA 0.14	0BA 0.14	0BA 0.15	0BA 0.16	0BA 0.16	0BA 0.17	0BA 0.18	0CA 0.19	0CA 0.3	0DA 0.32	0DA 0.32	0EA 0.35	0EA 0.35	0EA 0.38
4AM32 4	0.063	3RV14 21-□□□10 Set value in A	0BA 0.15	0BA 0.15	0BA 0.17	0CA 0.18	0CA 0.19	0CA 0.2	0CA 0.2	0CA 0.21	0DA 0.22	0DA 0.23	0DA 0.25	0DA 0.26	0DA 0.27	0FA 0.43	0FA 0.45	0FA 0.47	0GA 0.49	0GA 0.5	0GA 0.55
4AM34 4	0.1	3RV14 21-□□□10 Set value in A	0DA 0.25	0DA 0.26	0EA 0.29	0EA 0.3	0EA 0.31	0EA 0.33	0EA 0.34	0FA 0.35	0FA 0.35	0FA 0.39	0FA 0.41	0FA 0.43	0FA 0.45	0HA 0.72	0HA 0.75	0HA 0.75	0JA 0.83	0JA 0.85	0JA 0.9
4AM38 4	0.16	3RV14 21-□□□10 Set value in A	0FA 0.39	0FA 0.4	0GA 0.45	0GA 0.45	0GA 0.49	0GA 0.51	0GA 0.54	0HA 0.55	0HA 0.55	0HA 0.6	0HA 0.65	0HA 0.67	0HA 0.71	0KA 1.1	0KA 1.1	0KA 1.2	1AA 1.3	1AA 1.35	1AA 1.4
4AM40 4	0.25	3RV14 21-□□□10 Set value in A	0HA 0.55	0HA 0.6	0HA 0.66	0HA 0.69	0JA 0.7	0JA 0.75	0JA 0.8	0JA 0.82	0JA 0.85	0KA 0.9	0KA 0.95	0KA 0.99	1	1BA 1.65	1BA 1.7	1BA 1.8	1BA 1.9	1BA 1.9	1BA 2
4AM43 4	0.315	3RV14 21-□□□10 Set value in A	0JA 0.7	0JA 0.75	0JA 0.8	0JA 0.85	0KA 0.9	0KA 0.9	0KA 1	0KA 1	0KA 1	0KA 1.1	0KA 1.2	1AA 1.24	1AA 1.3	1CA 2	1CA 2.1	1CA 2.2	1CA 2.3	1CA 2.4	1CA 2.5
4AM46 4	0.4	3RV14 21-□□□10 Set value in A	0KA 0.9	0KA 0.9	0KA 1	0KA 1	1AA 1.1	1AA 1.2	1AA 1.3	1AA 1.35	1AA 1.4	1AA 1.48	1AA 1.55	1BA 1.63	1BA 2.6	1DA 2.7	1DA 2.8	1DA 3	1DA 3.1	1DA 3.2	
4AM48 4	0.5	3RV14 21-□□□10 Set value in A	1AA 1.1	1AA 1.1	1AA 1.3	1AA 1.35	1BA 1.4	1BA 1.4	1BA 1.5	1BA 1.6	1BA 1.65	1BA 1.75	1BA 1.85	1CA 1.9	1CA 2	1EA 3.2	1EA 3.3	1EA 3.5	1EA 3.7	1EA 3.8	1EA 4
4AM52 4	0.63	3RV14 21-□□□10 Set value in A	1AA 1.35	1BA 1.4	1BA 1.5	1BA 1.6	1BA 1.7	1CA 1.8	1CA 1.9	1CA 1.9	1CA 2	1CA 2.1	1CA 2.2	1DA 2.3	1DA 2.5	1FA 3.9	1FA 4	1FA 4	1FA 4.5	1FA 4.7	1FA 5
4AM55 4	0.8	3RV14 21-□□□10 Set value in A	1BA 1.5	1CA 1.8	1CA 2	1CA 2.1	1CA 2.2	1DA 2.3	1DA 2.4	1DA 2.5	1DA 2.6	1DA 2.7	1DA 2.9	1EA 3.1	1EA 3.5	1GA 5	1GA 5	1GA 5.5	1GA 5.8	1GA 6	1GA 6.3
4AM57 4	1	3RV14 21-□□□10 Set value in A	1DA 2.2	1DA 2.3	1DA 2.5	1DA 2.6	1DA 2.7	1EA 2.9	1EA 3	1EA 3.1	1EA 3.3	1EA 3.4	1EA 3.6	1EA 3.8	1FA 4	1FA 6.3	1HA 6.5	1HA 6.5	1HA 7	1HA 7.6	1HA 8
4AM61 4	1.6	3RV14 21-□□□10 Set value in A	1FA 3.6	1FA 3.7	1FA 4.1	1FA 4.3	1GA 4.5	1GA 4.7	1GA 5	1GA 5	1GA 5.4	1GA 5.6	1GA 5.9	1GA 6.2	1GA 6.3	1KA 10	1KA 10.5	1KA 11	1KA 12	1KA 12.3	1KA 12.5
4AM64 4	2	3RV14 21-□□□10 Set value in A	1FA 4.4	1GA 4.6	1GA 5	1GA 5.3	1HA 5.5	1HA 5.8	1HA 6.1	1HA 6.3	1HA 6.6	1HA 6.9	1HA 7.3	1HA 7.6	1HA 8	4AA 12.5	4AA 13	4AA 13.5	4AA 14.5	4AA 15	4AA 16
4AM65 4	2.5	3RV14 21-□□□10 3RV14 31-□□□10 Set value in A	1HA 5.5	1HA 5.8	1HA 6.4	1HA 6.6	1JA 7	1JA 7.3	1JA 7.5	1JA 8	1JA 8.3	1JA 8.7	1JA 9.2	1KA 9.5	1KA 10	4BA 16	4BA 16.5	4BA 17	4BA 18.5	4BA 19	4BA 20
Motor starter protector version for 4AT transformers: motor protection																					
4AT30 3	4	3RV10 11-□□□10 3RV10 21-□□□10 3RV10 31-□□□10 Set value in A	1JA -- -- 8	1JA -- -- 8	-- 1KA 9	-- 1KA 9	-- 1KA 10	-- 1KA 11	-- 4AA 11	-- 4AA 11	-- 4AA 12	-- 4AA 12	-- 4AA 13	-- 4AA 14	-- 4BA 14	-- 4EA 22	-- 4EA 22	-- 4EA 23	-- 4EA 24	-- 4FA 28	-- 4FA 28
4AT36 1	5	3RV10 11-□□□10 3RV10 21-□□□10 3RV10 31-□□□10 Set value in A	1KA -- -- 10	1KA -- -- 10	1KA -- 4AA 11	-- 4AA 11	-- 4AA 12	-- 4BA 14	-- 4BA 14	-- 4BA 14	-- 4BA 15	-- 4BA 16	-- 4BA 16	-- 4CA 17	-- 4CA 17	-- 4FA 28	-- 4FA 28	-- 4FA 29	-- 4FA 31	-- 4FA 32	-- 4GA 36
4AT36 3	6.3	3RV10 21-□□□10 3RV10 31-□□□10 Set value in A	4AA 12	4AA 12	4BA 14	4BA 14	4BA 15	4BA 15	4CA 17	4CA 17	4CA 17	4CA 18	4DA 20	4DA 20	4DA 21	-- 4GA 36	-- 4GA 36	-- 4GA 36	-- 4GA 8	-- 4GA 39	-- 4HA 41
4AT39 1	8	3RV10 21-□□□10 3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4BA 15	4BA 15	4CA 17	4CA 18	4CA 18	4DA 20	4DA 20	4DA 21	4DA 22	-- 4EA 23	-- 4EA 24	-- 4EA 25	-- 4FA 28	-- 4HA 42	-- 4HA 43	-- 4HA 45	-- 4JA 48	-- 4JA 50	-- 4JA 52
4AT39 3	10	3RV10 21-□□□10 3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4CA 18	4CA 19	4DA 21	4DA 22	4DA 23	-- 4EA 24	-- 4EA 25	-- 4EA 26	4FA 28	4FA 28	4FA 30	4FA 31	-- 4JA 32	-- 4KA 51	-- 4KA 57	-- 4KA 57	-- 4KA 59	-- 4KA 69	-- 4KA 64
4AT43 0	11.2	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4EA 22	4EA 22	4EA 23	4EA 24	4EA 25	4FA 28	4FA 28	4FA 29	4FA 30	4GA 36	4GA 36	4GA 36	4HA 40	-- 4KA 58	-- 4KA 60	-- 4LA 70	-- 4LA 70	-- 4LA 70	-- 4MA 80
4AT43 1	12.5	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4EA 22	4EA 23	4FA 28	4FA 28	4FA 28	4FA 29	4FA 31	4GA 36	4GA 36	4GA 36	4HA 40	4HA 40	-- 4JA 45	-- 4LA 70	-- 4LA 70	-- 4LA 70	-- 4LA 73	-- 4MA 80	-- 4MA 80
4AT43 2	14	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4EA 25	4FA 28	4FA 29	4FA 30	4FA 31	4GA 36	4GA 36	4HA 40	4HA 40	4HA 40	-- 4JA 45	4JA 45	-- 4JA 45	-- 4MA 80	-- 4MA 80	-- 4MA 80	-- 4MA 82	-- 4MA 85	-- 4MA 90
4AT45 0	16	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4FA 29	4FA 30	4GA 33	4GA 36	4HA 40	4HA 40	-- 4JA 45	-- 4JA 45	-- 4JA 45	-- 4JA 45	4JA 47	4KA 57	4KA 57	4MA 81	4MA 85	4MA 89	4MA 94	4MA 97	4MA 100

¹⁾ Two-pole or single-pole motor starter protectors can be connected (3 conducting paths in series).

Single-Phase Transformers

4AM, 4AT Safety, Isolating, Control and Mains Transformers

General data

Secondary-side short-circuit and overload protection with motor starter protector or miniature circuit breaker

Trans-formers	Rated power P_n	Motor starter protectors						Miniature circuit breakers (MCBs)			
		Version: Motor protection ¹⁾	Rated output voltage U_{2N} in V					Type	Rated output voltage U_{2N} in V		
Type	kVA	Type	230	115	110	42	24		230	115	24
4AM transformers											
4AM23 4	0.025	3RV10 11-□□□10 Set value in A	0AA 0.14	0DA 0.26	0DA 0.29	0HA 0.75	1AA 1.3	5SX2 □□□-7 Current value in A	-- --	-- --	-- --
4AM26 4	0.04	3RV10 11-□□□10 Set value in A	0CA 0.21	0FA 0.41	0FA 0.45	0KA 1.2	1CA 2.1	5SX2 □□□-7 Current value in A	-- --	-- --	102 2
4AM32 4	0.063	3RV10 11-□□□10 Set value in A	0EA 0.34	0HA 0.68	0HA 0.72	1BA 1.9	1EA 3.3	5SX2 □□□-7 Current value in A	-- --	-- --	103 3
4AM34 4	0.1	3RV10 11-□□□10 Set value in A	0GA 0.55	0KA 1.1	0KA 1.14	1DA 3	1GA 5.2	5SX2 □□□-7 Current value in A	105 0.5	101 1	-- --
4AM38 4	0.16	3RV10 11-□□□10 Set value in A	0JA 0.86	1BA 1.72	1BA 1.82	1FA 4.8	1JA 8.4	5SX2 □□□-7 Current value in A	-- --	115 1.6	108 8
4AM40 4	0.25	3RV10 11-□□□10 3RV10 21-□□□10 Set value in A	1AA -- 1.37	1DA -- 2.7	1DA -- 2.8	1HA -- 7.4	-- 4AA 13	5SX2 □□□-7 Current value in A	-- --	-- --	-- --
4AM43 4	0.315	3RV10 11-□□□10 3RV10 21-□□□10 Set value in A	1BA -- 1.72	1EA -- 3.4	1EA -- 3.6	1JA -- 9.4	-- 4BA 16.5	5SX2 □□□-7 Current value in A	115 1.6	103 3	116 16
4AM46 4	0.4	3RV10 11-□□□10 3RV10 21-□□□10 Set value in A	1CA -- 2.2	1FA -- 4.4	1FA -- 4.6	1KA 12	-- 4CA 21	5SX2 □□□-7 Current value in A	102 2	104 4	120 20
4AM48 4	0.5	3RV10 11-□□□10 3RV10 21-□□□10 3RV10 31-□□□10 Set value in A	1DA -- -- 2.7	1GA -- -- 5.4	1GA -- -- 5.7	-- 4AA -- 15	-- 4EA 26	5SX2 □□□-7 Current value in A	103 3	-- --	125 25
4AM52 4	0.63	3RV10 11-□□□10 3RV10 21-□□□10 3RV10 31-□□□10 Set value in A	1EA -- -- 3.4	1HA -- -- 6.8	1HA -- -- 7.2	-- 4BA -- 18.8	-- -- 4FA 33	5SX2 □□□-7 Current value in A	104 4	106 6	132 32
4AM55 4	0.8	3RV10 11-□□□10 3RV10 21-□□□10 3RV10 31-□□□10 Set value in A	1FA -- -- 4.4	1JA -- -- 8.8	1JA -- -- 9.2	-- 4DA -- 24	-- -- 4GA 42	5SX2 □□□-7 Current value in A	-- --	108 8	140 40
4AM57 4	1	3RV10 11-□□□10 3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	1GA -- -- 5.4	1KA -- -- 10.8	1KA -- -- 11.4	-- 4EA -- 30	-- -- 4JA 52	5SX2 □□□-7 Current value in A	-- --	110 10	150 50
4AM61 4	1.6	3RV10 11-□□□10 3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	1JA -- -- 8.6	-- 4BA -- 17	-- 4BA -- 18.5	-- 4HA -- 48	-- -- 4LA 81	5SX2 □□□-7 Current value in A	108 8	116 16	-- --
4AM64 4	2	3RV10 11-□□□10 3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	1KA -- -- 10.9	-- 4DA -- 22	-- 4DA -- 23	-- -- 4JA 60	-- -- 4MA 101	5SX2 □□□-7 Current value in A	110 10	120 20	-- --
4AM65 4	2.5	3RV10 21-□□□10 3RV10 31-□□□10 3RV10 41-□□□10 3VF32 11-□□□□□-0AA0 Set value in A	4AA -- -- -- 13.6	-- 4EA -- -- 27	-- 4EA -- -- 28	-- -- 4KA -- 72	-- -- 1BU41 125	5SX2 □□□-7 Current value in A	113 13	125 25	-- --
4AT transformers											
4AT30 3	4	3RV10 21-□□□10 3RV10 31-□□□10 Set value in A	4CA -- 21	-- 4GA 41	-- --	-- --	-- --	5SX2 □□□-7 Current value in A	120 20	140 40	-- --
4AT36 1	5	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4EA -- 26	-- 4JA 51	-- --	-- --	-- --	5SX2 □□□-7 Current value in A	125 25	150 50	-- --
4AT36 3	6.3	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4FA -- 32	-- 4KA 64	-- --	-- --	-- --	5SX2 □□□-7 Current value in A	132 32	163 63	-- --
4AT39 1	8	3RV10 31-□□□10 3RV10 41-□□□10 Set value in A	4GA -- 41	-- 4LA 81	-- --	-- --	-- --	5SX2 □□□-7 Current value in A	140 40	180 80	-- --
4AT39 3	10	3RV10 41-□□□10 Set value in A	4JA 51	4MA 100	-- --	-- --	-- --	5SX2 □□□-7 Current value in A	150 50	191 100	-- --

¹⁾ Two-pole or single-pole motor starter protectors can be connected (3 conducting paths in series).

Single-Phase Transformers

4AM, 4AT Safety, Isolating, Control and Mains Transformers

General data

Short-time rating of control transformers $P_{\text{shortt.}}^{1)} = f(\text{p.f.})$ for $U_2 = 0.95 \times U_{2N}$

Trans- formers	Rated power P_n	Short-time rating $P_{\text{shortt.}}^{1)}$ with p.f. of										Voltage rise in no-load operation (operating temperature) u_A %	Voltage drop on rated load (at 20 °C) u_R %	Short- circuit voltage (at 20 °C) u_Z %
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1			
Type	kVA	kVA	kVA	kVA	kVA	kVA	kVA	kVA	kVA	kVA	kVA	u_A %	u_R %	u_Z %
4AM transformers														
4AM32 4	0.063	0.56	0.37	0.28	0.23	0.19	0.16	0.14	0.12	0.12	0.11	10	8.4	8.5
4AM34 4	0.1	0.96	0.62	0.46	0.37	0.31	0.26	0.23	0.21	0.19	0.17	10	7.7	7.7
4AM38 4	0.16	1.52	0.98	0.73	0.58	0.49	0.42	0.37	0.33	0.3	0.28	10.4	7.6	7.7
4AM40 4	0.25	2.5	1.62	1.24	1	0.85	0.74	0.66	0.59	0.54	0.51	7.2	5.4	5.4
4AM43 4	0.315	3.4	2.15	1.63	1.33	1.12	0.97	0.86	0.77	0.71	0.67	6.6	4.9	5
4AM46 4	0.4	3.51	2.53	2	1.67	1.44	1.26	1.13	1	0.95	0.92	5.7	4.3	4.4
4AM48 4	0.5	5.34	3.75	2.9	2.4	2	1.75	1.55	1.4	1.3	1.25	5	3.8	3.8
4AM52 4	0.63	5.05	3.85	3.15	2.7	2.35	2.1	1.9	1.75	1.65	1.6	4.7	3.6	3.7
4AM55 4	0.8	7.69	5.8	4.65	3.9	3.4	3	2.7	2.5	2.3	2.25	4	3	3.1
4AM57 4	1.0	12.1	8.85	7	5.85	5	4.4	3.95	3.6	3.3	3.2	3.2	2.5	2.5
4AM61 4	1.6	12.1	10.3	9	8.1	7.3	6.8	6.4	6.1	5.9	6.4	2.4	1.9	2.1
4AM64 4	2	15.8	13.5	11.9	10.7	9.7	9	8.5	8.1	7.9	8.6	2.1	1.7	1.9
4AM65 4	2.5	19.6	17.3	15.6	14.3	13.3	12.5	12	11.6	11.5	13.2	1.6	1.3	1.6
4AT transformers														
4AT30 3	4	45.8	32.6	25.4	20.9	17.8	15.5	13.8	12.5	11.5	11	4.1	2.9	2.9
4AT36 1	5	48	36.7	27.9	22.6	19	16.5	14.6	13.1	12	11.2	5.9	4	4.1
4AT36 3	6.3	54.9	42.1	33.8	28.4	24.5	21.7	19.5	17.8	16.5	16.1	4.7	3.2	3.3
4AT39 1	8	70	53.6	43	36	31.1	27.5	24.8	22.6	21	20.4	4.6	3.2	3.3
4AT39 3	10	64.1	53.3	45.8	40.5	36.4	33.3	30.9	29.1	27.9	29.4	3.7	2.6	2.9
4AT43 0	11.2	117	85.8	67.8	56.3	48.3	42.4	37.9	34.5	31.9	30.7	4.1	2.9	2.9
4AT43 1	12.5	117	89.5	72.9	61.8	53.8	47.9	43.3	39.8	37.2	36.7	3.7	2.6	2.7
4AT43 2	14	111	90	75.9	66	58.7	53.1	48.8	45.5	43.2	44.2	3.3	2.3	2.5
4AT45 0	16	187	140	112	94	81.2	71.7	64.5	59	54.7	53.4	3.1	2.1	2.2

¹⁾ $P_{\text{shortt.}}$ applies to up to 300 contactor operations per hour.